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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,557	06/02/2006	Yasutomo Okajima	1343.46164X00	6205
20457 7590 03/05/2009 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER PETERSON, KENNETH E				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/581,557

Applicant(s)

OKAJIMA ET AL.

Examiner

Kenneth Peterson

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) 25-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. Newly submitted claims 25-29 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The originally examined claims are directed to where the distances between the flipping axis are changed, for example, in claims 4 and 5.

The new claims 25-29 are drawn to a method employing a robot.

There is two-way distinction and also a search burden between the examined claims and the new claims.

Applicant has received an action on the merits for at least elected claims 4 and 5. Accordingly, claims 25-29 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

New claim 24 will be examined.

2. The abstract of the disclosure is objected to because it employs poor grammar.

For example, the first phrase "*A method and an apparatus for processing a substrate divide a mother substrate into unit substrates*" seems to be missing sections.

Correction is required. See MPEP § 608.01(b).

3. Claims 1-5 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear which substrates are which. For example, line 2 of claim 1 has "a mother substrate". Lines 4-6 have "a plurality of mother substrates....each of which is a

portion that has been divided from a mother substrate". On line 6 is "said mother substrates". Is Applicant calling two different things by the same name? Generally the claims are garbled and awkward. It is recommended that they be re-written by someone with a mastery of the English language. Steps should positively recited, and not part of a "when" statement as on line 3 of claim 1.

Claims 1 and 24 use the term "passed" on their second-to-last lines. It is not clear what is meant by this term.

Claim 5 has an incorrect cause-and-effect recitation. Basically saying "separating the axis *thereby* dividing along a portion of said scribe line". Examiner's understanding is that the separation of the axis is for the purpose of avoiding contact between the substrates while flipping (paragraph 0019), and it is the breaking tool (not the axis separation) which causes dividing. Accordingly, it is not clear what weight should be given this cause-and-effect recitation.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 24 is rejected under 35 U.S.C. 102(e) as being anticipated by Munakata et al. (7,033,857), who shows a method of flipping substrates (figures 17-23) including the

step of employing a number of suction members (each hole 18d,12c is its own suction member, each with co-extensive axis of rotation). Each of these suction members is simultaneously flipped, thus turning over both main faces (top face and bottom face) of the substrate.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamatsu et al. (2004/0155085) in view of Munakata et al. (7,033,857) and Takeuchi et al.(5,332,406).

Takamatsu shows a method of dividing a two-layer substrate including scoring both sides and applying a breaker to both sides, and flipping the substrate in between, as visualized in at least figures 1 and 2.

Takamatsu does not elaborate on what mechanism does the flipping.

However, Munakata discloses a device explicitly for this purpose, as discussed in the above rejection. It would have been obvious to one of ordinary skill in the art to have provided Munakata's flipping device to Takamatsu, since Takamatsu failed to explicitly detail the flipping device.

Takamatsu, as modified by Munakata above, shows a method with all of the recited steps except the step of dividing the mother substrate into strips and then parallel processing the strips.

Takamatsu is silent on where his strips come from, but it is common to have them arrive after being divided from a mother substrate and then processed in parallel as seen in Takeuchi's claim 4. It would have been obvious to one of ordinary skill in the art to have divided Takamatsu's strips from a mother substrate, and to have parallel processed them, as taught by Takeuchi, in order to gain the efficiencies of mass production. The parallel processing would naturally involve multiple occurrences of Munakata's flipper, with each flipper simultaneously rotating about its own axis.

8. Claims 1-5 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamatsu et al. (2004/0155085) in view of Munakata et al. (7,033,857) and Takeuchi et al.(5,332,406), as set forth above, and further in view of Gray (4,140,258).

Takamatsu, as modified by Munakata and Takeuchi above, shows a method with all of the recited steps except for the separation of each flipper axis from each other. However, Gray teaches that it is known to do this (lines 54-56, column 1, figures 4a-4e) in order to facilitate subsequent stacking and packaging (lines 10-12, column 1). It would have been obvious to one of ordinary skill in the art to have further modified Takamatsu by providing a separating step for the suction flippers, as taught by Gray, in order to position the substrate products for subsequent stacking and packaging.

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant's new drawings have been accepted.

Applicant's arguments against the 112 rejection were unpersuasive. The claims are poorly drafted, with too many alternatives and a lack of clear steps. In particular the use of the term "mother substrate" to refer to different things is indefinite. In regards to claim 5, the term "dividing" is an art recognized term referring to the breaking step. As discussed above, the separating of the axis does not cause the dividing (breaking step). Again, Examiner recommends a rewriting of the claims by a practitioner with a mastery of the English language. Also, it is recommended that the entire specification be reviewed with the thought of improving its grammar.

Applicant's arguments against the prior art rejections, inasmuch as they are relevant to the new rejections, are not convincing. The claims, unclear as they are, only set forth vague steps involving parallel processing. Currently, the claims do not clearly set forth the thrust of Applicant's invention.

The general claimed method does little to distinguish over the prior art. It appears that the heart of the invention lies more in the structure of the apparatus. Accordingly, to distinguish over the prior art, Applicant needs to either switch to apparatus claims or carefully recite the structure of the apparatus within the context of method steps.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Peterson whose telephone number is (571)272-4512. The examiner can normally be reached on Monday-Thursday, 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571)272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth Peterson/
Primary Examiner, Art Unit 3724